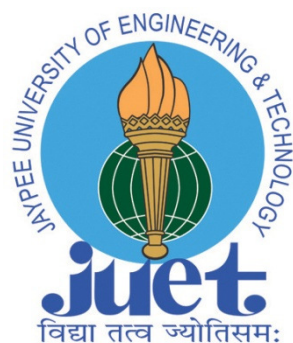


Track ID: MPUNGN11402

Volume-7

EVALUATIVE REPORT
DEPARTMENT OF CHEMISTRY
for
ASSESSMENT AND ACCREDITATION

Submitted to
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
BANGALORE



JAYPEE UNIVERSITY OF ENGINEERING AND TECHNOLOGY
GUNA

November 26, 2015

EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the Department** : Chemistry (CHY)

2. **Year of establishment** : 2003.

3. **Is the Department part of a School/Faculty of the university?**

JUET is a unitary University. It has departments that include Department of Chemistry.

4. **Names of programs offered**

- Ph.D. - (Full Time/ Part Time)

5. **Interdisciplinary program and departments involved**

- None. However, the department takes separate courses for students of B.Tech. in Civil Engineering (CE), Mechanical Engineering (ME), and Chemical Engineering (CHE) in 2nd semester
- The department also takes some core courses for the B.Tech Chemical Engineering students.
- Beyond these core courses the Chemistry department also offers some interdisciplinary electives to B.Tech and M.Tech students of Chemical Engineering department.
- Some courses are also offered by the Chemistry department to all other disciplines of the B.Tech. and M.Tech. programs.

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**

Not yet

7. **Details of programs discontinued, if any, with reasons**

B.Sc. program has been discontinued from July, 2014 onwards due to very less number of applications received.

8. **Examination System**

Semester, along with choice based credit system. Following are the details for evaluation of all type of courses

Examinations

To train the student to put in sustained and disciplined work over the entire period of study, following pattern of examination is being implemented in the University. Some important components of the examination pattern are as mentioned below:-

I. Theory Courses

The University follows the semester systems and accordingly three examinations held in each semester for theory courses. These examinations have a total weightage of 75%; the balance 25% allocated to Assignments, Quizzes, Tutorial, and Regularity in Attendance etc. by the Course Coordinator/ Teacher. Details of examinations and their weightage are as follows:-

a) Theory Tests/Examinations

Three tests/examinations held in each semester as specified in previous section. Tests/examinations are as under:-

- (i) Test-1 or T-1
- (ii) Test-2 or T-2
- (iii) Test-3 or T-3

b) Weightage of marks, duration & Syllabus for theory test/examination Allotment of weightage of marks i.e.75% of total & Syllabus, duration, marks for each Tests/Examination will be as under:-

Allotment of marks:

Tests/Exams	T-1	T-2	T-3
Percentage of marks	15	25	35
Duration in Hours	1	1 ½	2

Syllabi Coverage:

The syllabus for each test is course contents covered up to the last day of teaching before the examination.

c) Allotment of remaining weightage of marks i.e. 25% of total.

Remaining weightage of marks i.e. 25% including 5% of attendance awarded by respective course coordinator in each theory course through the individual events i.e. Assignments, Tutorials, Quizzes, Regularity & Punctuality in class attendance on the basis of entire semester performance of the individual student.

II. Practical Courses

The evaluation of Practical / Laboratory / Sessional / Workshop work are based on the following:-

- | | | |
|--|-------|-------|
| a) Day to day work | | 70% |
| a. Attendance and discipline in laboratory | | (15%) |
| b. Quantity & Quality of Experiments Performed,
Learning laboratory skills and handling
laboratory equipment, Instruments, gadgets,
components, materials and software etc. | | (40%) |
| c. Laboratory record | | (15%) |
| b) Mid-Semester lab-viva voce / test | (P-1) | 15% |
| c) End Semester lab - viva voce / test | (P-2) | 15% |

9. Participation of the department in the courses offered by other departments

The Department offer following courses in the B.Tech./ M.Tech. / Diploma/ Ph.D. programs of other departments:

Beneficiary Department	Course Name
B.Tech. Chemical Engineering	Physical & Inorganic Chemistry
B.Tech. Chemical Engineering	Organic Chemistry
B.Tech. Chemical Engineering	Industrial Organic Synthesis
B.Tech. Civil Engineering	Chemistry
B.Tech. Mechanical Engineering	Engineering Chemistry
Diploma	Chemistry-I
Diploma	Chemistry-II
Diploma	Chemistry of Cements
M.Tech./Ph.D. Chemical Engineering	Polymer Science & Engineering (Elective)
M.Tech./Ph.D. Chemical Engineering	Catalysis & Surface Chemistry
M.Tech. Environment Engineering	Analytical Chemistry and Environmental Instrumentation
M.Tech. Environment Engineering	Environmental Chemistry and Microbiology

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

Positions		Sanctioned	Filled	Actual (including CAS & MPS)
Professor		0	1	
Associate Professors		0	1	
Assistant Professors	G-I	2	0	
	G-II		1	
	SG		2	
Teaching Assistants*			3*	

*Full time Ph.D./M.Tech. Students

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance-

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Prof. P. K. Singh	Ph.D.	Professor	Cement Technology	32	Ph.D. Supervision- Completed: 03 Ongoing: 00 M.Tech. Guidance - Completed: 01
Dr. Rashmi Tyagi	Ph.D.	Associate Professor	Novel surfactants & Oleo-chemicals	09	Ph.D. Supervision- Completed: 02 Ongoing: 02 M.Tech. Guidance- Completed: 02
Dr. Siyaram Pandey	Ph.D.	Assistant Professor (SG)	Polymer	15	Ph.D. Supervision- Completed: 00 Ongoing: 00 M.Tech. Guidance - Completed: 00
Dr. Sunil Kr. Srivastava	Ph.D.	Assistant Professor (SG)	Hydrology	10	Ph.D. Supervision- Completed: 00 Ongoing: 00 M.Tech. Guidance - Completed: 01

Dr. Sudip Kumar De	Ph.D.	Assistant Professor (G-II)	Inorganic Chemistry, Polymer Chemistry	3	Ph.D. Supervision- Completed:00 Ongoing: 01 M.Tech. Guidance - Completed: 00
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12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Not Yet

13. Percentage of classes taken by temporary faculty-programme-wise Information

Nil

14. Programme-wise Student Teacher Ratio

Chemistry faculties are teaching the students of B.Tech. in Civil Engineering (CE), Mechanical Engineering (ME), and Chemical Engineering and the student teacher ratio is mentioned with the respective department.

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled	Actual
Technical	2	2	2
Administrative	Centrally managed at University level		

16. Research thrust areas as recognized by major funding agencies

Following are the research thrust areas where the different projects are carried and funded by different agencies

I. Novel surfactants and oleo-chemicals

The department has Completed a three years (November 25, 2011- November 24,2015) research project entitled “Development of novel carboxylate anionic gemini surfactants and evaluation of aqueous properties of their binary mixtures with conventional surfactants” sponsored by SERC Fast Track Scheme, Department of Science & Technology (DST), New Delhi, amounting ₹ 14.15 lakh.

The department is running a three years research project entitled “Studies on bis -sulphosuccinate gemini surfactants and evaluation of their surface active properties in mixed surfactant systems” sanctioned by Extramural Research Division of Council of Scientific & Industrial Research (CSIR), New Delhi, amounting ₹ 18.00 lakh with effect from December 01,2012.

In addition to this the faculty members of the department are involved in research in the following areas funded by the University itself.

- Cement Technology
- Photocatalysts for environmental remediation
- Catalytic Aqueous Polymerization
- Hydrology

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

- Dr. Rashmi Tyagi has completed one project funded by DST and another project funded by CSIR is going on. Details are given in the following table.

Funding Agency	Project Title	Grant Received ₹ (Lakhs)
CSIR	Studies on bis -sulphosuccinate gemini surfactants and evaluation of their surface active properties in mixed surfactant systems	18 Lakhs

18. Inter-institutional collaborative projects and associated grants received

- a) National collaboration b) International collaboration

The department has so far not received any grant formally for collaborative research.

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

S. No.	Name of Faculty	Name of Project	Sponsor	Date of Approval	Fund Allocated (₹ in Lakhs)	Duration
1	Dr. Rashmi Tyagi	Development of novel carboxylate anionic gemini surfactants and evaluation of aqueous properties of their binary mixtures with conventional surfactants	DST, Govt, of India	Nov-2011	14.15	3 Years

2	Dr. Rashmi Tyagi	Studies on bis - sulphosuccinate gemini surfactants and evaluation of their surface active properties in mixed surfactant systems	CSIR, Govt, of India	Dec 2012	18	3 Years
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20. Research facility / centre with

- State recognition: Not yet
- National recognition: Not yet
- International recognition: Not yet

21. Special research laboratories sponsored by / created by industry or corporate bodies

Cement Research Development Centre (CRDC) created by Jaypee group.

22. Publications:

Summary Report

Category	2010	2011	2012	2013	2014	2015	Total publications
International Journals	1	3	1	9	8	10	32
National Journals	-	-	-	1	-	2	03
International Conferences	1	3	1	-	4	1	10
National Conferences	-	1	-	1	-	-	02

Other Publications

Category	Numbers
Monographs	-
Chapters in Books	-
Edited Books	-
Books with ISBN	03

Journals Indexed in SCOPUS/SCI/Others

Category	SCOPUS	SCI	Others	Total
International	19	15	7	25
National	1	1	2	1

Citation Index:

Indexing parameter	Details
Google citations	Total citations 169 Range: 0-36 Average: 6.5
SNIP	Range: 0-4.1 Average: 1.01
SJR	Range: 0-3.1 Average: 1.1
Impact Factor	Range: 0-5.3 Average: 1.23
h-index	Range: 0-5 Average: 2

Details of Publications are mentioned in Annexure-I/CHY.

23. Details of patents and income generated

Not yet

24. Areas of consultancy and income generated

Consultancy on energy audit at cement plants, generated income 7000 USD

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

Not Yet

26. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Some of the faculty members are on the reviewer board of various types of academic publications.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Faculty members, to recharge themselves, attend workshop, seminars, expert talks, conferences, refresher courses, faculty development program etc. on regular basis, inside and outside the University.

28. Student projects

Faculty members of Chemistry Department supervise about 25% - 35% students of B.Tech Chemical Engineering for experimental project offered in the 3rd year and final year design project.

29. Awards/recognitions received at the national and international level by

- **Faculty**

Not yet

- **Doctoral / post doctoral fellows :**

Name of Research Fellow	Detail of research award
Kanchan Sharma	Ms. Kanchan Sharma received Best Poster Paper Award in International Conference on Global Opportunities for Latest Developments in Chemistry and Technology- held on February 06-08, 2014 at North Maharashtra University, Jalgaon.

- **Students**

Not yet

30. Seminars/Conferences/Workshops organized and the source of funding (national / International) with details of outstanding participants, if any.

Not yet

31. Code of ethics for research followed by the departments

The Department follows the University code of research ethics. In addition, the faculty members and research scholars are advised to follow IEEE/ACM code of ethics.

32. Student profile programme-wise:

Name of the Program (refer to question no. 4)	Applications received *	Selected		Pass percentage- [Nos. (%)]	
		Male	Female	Male	Female
Ph. D.					
Up to 2015	16	2	5	1	2
				01	3F
				Nos. Discontinued:	Nil

*Total number of applications received in the University for Admission.

33. Diversity of students

Name of the Programme	Total	% of students from the same University	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Ph. D.					
2010-15	8	0	25	75	Nil

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Not Applicable

35. Student progression

Student progression	Percentage against enrolled
Ph.D. to Post-Doctoral	Nil
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	0%
	100%
Entrepreneurs	0%

36. Diversity of staff

For Ph. D., percentage is calculated out of total Ph.D. degree holders and percentage of UG and PG is calculated out of total strength of the Department.

Percentage of faculty who are graduates	PG	Ph. D.
of the same University	Nil	Nil
from other universities within the State	Nil	Nil
from universities from other States	100%	100%
from universities outside the country	Nil	Nil

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

- One faculty member has been awarded Ph.D. The details are mentioned below

S. No.	Name of Faculty	Area of Research	Year of Degree awarded	University
1	Dr. Sudip De	Transition metal catalyzed aqueous polymerization	2012	IIT Kharagpur

38. Present details of departmental infrastructural facilities with regard to

- Library:** Department uses the facility of Learning Resource Centre (LRC) available centrally. In addition to this a Departmental Library is also available.
- Internet facilities for staff and students:** JUET campus is fully connected through LAN/ Wi-Fi arrangement consisting of around 3500 node. Internet facility is available 24 X 7 on all these nodes through 1Gbps leased line. On this network 855 Desktop Systems are made available to faculty members and staff members. Other nodes are available for connections of personal computing devices by faculty members/staff/students.
- Total number of class rooms:** 13 Lecture Theatres and 30 Class Rooms/Tutorial rooms of the University are shared with other departments.
- Class rooms with ICT facility:**
13 Lecture Theatres and 6 Class Rooms/Tutorial rooms with ICT facility are with other departments. The detail information is mentioned in Section 4.3.7.

*Details mentioned at point b),c) & d) is available centrally at University level which is being shared by other departments also.

e) **Students' laboratories:**

Laboratory details

Laboratory Name	Location	Major equipments available
Chemistry Lab	Raman Bhavan	1. Digital Electronic Weighing Balances 2. UV spectrophotometer (both single and double beam type) 3. Gas Chromatograph 4. Laboratory Oven / Muffle Furnace 5. Digital pH/conductivity meters 6. Water distillation unit 7. Vacuum pump 8. Polarimeter 9. Oil bath 10. Fume chamber

- **Research laboratories:**

The department has one research laboratory equipped with the following facilities:

Du Nouy tensiometer, Digital balance (Sartorius), Fluorescence Spectrophotometer (Shimadzu), UV spectrophotometer (both single and double beam type), Gas Chromatograph, Laboratory Oven / Muffle Furnace, Digital pH & Digital conductivity meters, Water distillation unit, Vacuum pump and Polarimeter.

39. List of doctoral, post-doctoral students and Research Associates

I. From the host institutions/universities

- **Doctoral Degree (Awarded)**

1. Dr. Parul Tyagi
2. Dr. Naveen Kumar
3. Dr. Seema Singh

- **Doctoral Degree (Pursuing)**

1. Mrs. Vinayika Singh
2. Mrs. Geetha
3. Miss. Kanchan Sharma
4. Mr. Surendra Parashar

II. From other institutions/universities

Nil

40. Number of post graduate students getting financial assistance from the university.

- Currently three Ph.D. Scholars are receiving financial assistance from the University. The details are mentioned in the table:

S No.	Name
1.	Mrs. D. Geetha
2.	Miss. Kanchan Sharma
3.	Mr. Surendra Parashar

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

The emerging trends in industry, research, government policies, computing education, recommendations of the professional bodies, and JUET management's directives motivate and guide the department to design new programs. International and nationally renowned academicians from many leading institutes and industry professionals are consulted while conceptualizing and designing new programs or revising the curricula of existing programs. The latest recommendations of professional bodies, especially CSI, ACM and IEEE, and also the recent curriculum trends in leading international and Indian universities are given due considerations in designing and revising our curriculum. All the faculty members are requested to give their suggestions and finally the meeting of the board of studies including external experts is held for reviewing the curriculum.

42. Does the department obtain feedback from

- a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

Yes, the feedback is taken through regular discussions, course work files, meetings and emails.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

The feedback from the students is taken at the end of each semester for each course separately. Outcome of these feedbacks are considered for enhancement of curriculum and teaching-learning methodologies. Special remarks are also conveyed to the concern faculty member for corrective actions.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

The department keeps a regular contact with the alumni. The alumni, students and faculty members are connected with each other through social media. Feedback is discussed departmentally and utilized appropriately.

43. List the distinguished alumni of the department (maximum 10)

S. No.	Year of Passing from JUET, Achievements and current affiliations
1	Dr. Parul Tyagi, 2011 Assistant Professor, Echelon Institute of Technology, Kabulpur, Faridabad, Haryana 121101
2	Dr. Naveen Kumar, 2015 Research Associate R&T Centre, Hyderabad, A.P.

44. Give details of student enrichment programmes (special lectures / workshops /seminar) involving external experts.

Not Yet

45. List the teaching methods adopted by the faculty for different programmes.

- Interactive lectures using various aids e.g., Black/White board, computer presentation, Visualizer, etc.
- Small group tutorials and Assignments
- Laboratories
- Use of online educational resources as supplements
- Participation in Conference, Guest lectures, and industry conducted workshops
- Report writing and Seminars
- 24x7 academic connectivity of faculty members with class using social media and other web services

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The department continuously monitors and ensures that programme objectives are met and learning outcomes are achieved through following methods:

- I. Continuous evaluation of students' progress through their performance in
 - a. Written exams
 - b. Assignments
 - c. Projects
 - d. Presentations
 - e. Reports
- II. Feedback from the recruiters and employers on student's performance help us in formulating and evolving our corrective strategies. Most of the time this interaction held directly by our faculty members.

47. Highlight the participation of students and faculty in extension activities.

Faculty members and students of the department are actively involved in various extension activities organized by JUET. Details are mentioned in section 3.6 of Self Study Report of the University.

48. Give details of "beyond syllabus scholarly activities" of the department.

All faculty members are participating in national and international conferences/workshops/seminars to get exposure of recent trend in the area of their expertise.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Not yet

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Chemistry department is actively involved in developing the basic knowledge of engineering chemistry among the students and providing the knowledge on the latest developments in the field of applied chemistry to the students. The department contributes in generating new knowledge through its research activity in some of the trust areas of research which is evident from the research publications and Ph.D. produced by the faculty members of the department.

The above contribution is reflected in the publications and theses produced by the department as below:

S.No.	Name of event	Total
1.	Research Paper	35
2.	Books	3

The details are mentioned in the Annexure-I/CHY

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- Good Infrastructure on par with leading institutes
- Well equipped laboratories
- Well qualified faculty with experience from organizations of repute
- Dynamic curriculum.
- Well supported by the university

Weaknesses:

- Lesser consultancy
- Lack of students due to remote location
- Lack of funded projects
- Lack of advanced research instruments for characterization (NMR, FT-IR etc)

Opportunities:

- The University always encourages and supports all the faculty members to submit project proposals. Therefore, it is expected that with time the department will be able to increase the research facilities gradually.

Challenges:

- To attract and convince students to pursue general degree courses (B.Sc. & M.Sc.)
- Applications of technology in teaching and research;
- Funds for projects and research
- Interdisciplinary teaching/research environment.

52. Future plans of the department.

To attract more students to run B.Sc.(Honours) Programme with specialization in Core Chemistry(Organic/Inorganic/Physical) subjects and M.Sc. Programme with specialization in Interdisciplinary topics of high importance. To increase research facilities by installing new instruments (IR, NMR spectrometer etc.) by raising funds from sponsored research projects.

Chemistry Department publication list

International Journals

2015

1. S.Singh, H.Mahalingam and P.K.Singh , “An Effective and Low-Cost TiO₂/Polystyrene Floating Photocatalyst for Environmental Remediation”, International Journal of Environmental Research (In Press). (IF= 1.818)
2. S.Singh, H.Mahalingam and P.K.Singh, “A novel and Effective Strewn Polymer-Supported Titanium Dioxide Photocatalyst for Environment Remediation”, Journal of Materials and Environmental Science, vol. 6(2),pp. 343-348,2015 . (IF= 0.5672)
3. D. Geetha and Rashmi Tyagi, “Synergistic Interactions in the Mixed Micelles of Cationic Amphiphile with Biopolymeric Glucoside Surfactants”, Journal of Dispersion Science & Technology, _DOI: 10.1080/01932691.2015.1081097. [Impact Factor: 0.795 , SCI]
4. Vinayika Singh and Rashmi Tyagi, ““Surface and Fluorescence Studies of Bis-Sulfosuccinate Anionic Gemini Surfactants Derived from Dodecanol Using Different Flexible Methylene Chains as Spacers,” Tenside Surfactants Detergents, 52(4), 01-08,(2015). [Impact Factor: 0.981, SCI]
5. Sunil Kumar Srivastava, Alok Gautam, Prempal Singh and AL. Ramanathan “Recovery of Copper from ewaste by using Hydrometallurgical Method” Journal of Hazardous Material(Elsevier Pub.) (2015) (Accepted)(Impact Factor 5.29)
6. Sunil Kumar Srivastava “A Review on designs of Anaerobic Digesters for producing biogas from Municipal Solid Waste”. Bioresource Technology, 2015(Elsevier Pub.)(Accepted))(Impact Factor 5.33).

2014

7. V.S.Babu, A.K.Mullick, K.K.Jain and P.K.Singh, “Strength and Durability Characterstics of High-strength Concrete with Recycled Aggregate-Influence of Mixing Techniques”,Journal of Sustainable Cement- based materials, 10.1080/21650373.2013.874302.2014.
8. Kanchan Mala, A.K.Mullick, K.K.Jain and P.K.Singh, “ Effect of Relative Levels of Mineral Admixtures on Corrosion Resistance of Cracked Ternary Cement blend Concrete”, Journal of Sustainable Cement based Materials, Vol.3,No.1,pp. 24-46, 2014.

9. V.S.Babu, A.K.Mullick , K.K.Jain and P.K.Singh, “ Mechanical properties of high strength concrete with recycled aggregate-influence of processing- The Indian Concrete Journal, vol. 88(5)pp.10-26,2014.
10. V.S.Babu, A.K.Mullick, K.K.Jain and P.K.Singh, “ Mechanical properties of high strength concrete with processed recycled aggregate-influence of mixing techniques”, The Indian Concrete Journal, vol.88,pp. 01-16, 2014.
11. S.Singh, H.Mahalingam and P.K.Singh, “Novel Floating Ag+- Doped TiO₂/Polystyrene Photocatalysts for the Treatment of Dye Wastewater”, Industrial & Engineering Chemistry Research, vol. 53(42), pp.16332-16340, 2014. (IF= 2.235)
12. N. Kumar& R. Tyagi, “Analysis of the interactions of polyvinylpyrrolidone with conventional anionic and dimeric anionic surfactants”, Journal of Dispersion Science & Technology, DOI: 10.1080/01932691.2014.981339. [Impact Factor: 0.795 , SCI]
13. Vinayika Singh and Rashmi Tyagi, “Unique micellization and CMC aspects of Gemini Surfactant: An Overview, Journal of Dispersion Science & Technology, 35, 1774-1794 (2014). [Impact Factor: 0.795 , SCI]

2013

14. Kanchan Mala, A.K.Mullick, K.K.Jain and P.K.Singh, “ Accelerated curing strength of concrete containing binary and ternary blends of OPC, silica fume and fly ash”,The Indian Concrete Journal,vol. 87(4) pp. 39-49,2013. [SJR- 0.188, H-index-11]
15. Seema Singh and Hari Mahalingam and P.K.Singh, “ Polymer supported titanium dioxide photo-catalysts for environmental remediation”,Applied Catalysis -A Review, vol. 462-463 pp. 178-195,2013. [IF=3.674]
16. Kanchan Mala, A.K.Mullick, K.K.Jain and P.K.Singh, “Effect of Relative Levels of Mineral Admixtures on Strength of Concrete with Ternary Cement Blend”, International Journal of Concrete Structures and Materials, vol. 7(3) pp.239-249, 2013.
17. S.Singh, A.Chaki, D.P.Chand, A.Raghuvanshi, H.Mahalingam and P.K.Singh, “ A novel polystyrene supported titanium dioxide photocatalyst for degradation of methyl orange and methylene blue dyes under UV radiation” Journal of Chemical Engineering (IEB), Vol. Ch E 28, pp. 6 13,2013.

18. Naveen Kumar and Rashmi Tyagi, "Industrial Applications of Dimeric Surfactants: A Review", *Journal of Dispersion Science & Technology*, 35(2), 205-214, (2014) DOI:10.1080/01932691.2013.780243. [Impact Factor: 0.795 , SCI]
19. Tripathi S.K., Rashmi Tyagi & Nandi B.K., "Removal of Residual Surfactants from Laundry Waste Water: A Review," *Journal of Dispersion Science & Technology*, 34(11), 1526-1534, (2013). [Impact Factor: 0.795 , SCI]
20. Sudip K De; M. Bhattacharjee "Titanium(IV) Nonmetallocene Complex Catalyzed Aqueous Homopolymerization and Copolymerization of Styrene and Methyl Methacrylate: An Environmentally Friendly Approach to Ultrahigh Molecular Weight Polymer Nanoparticles" *J. Polym. Sci. Part A: Polym. Chem.* 2013, 51, 1540-1549. (ISSN: 1099-0518; Impact Factor 3.113)

2012

21. D. Geetha and Rashmi Tyagi, "Alkyl Poly Glucoside (APGs) Surfactants: A Review," *Tenside Surfactants Detergents*, 49(5), 417-427, (2012). [Impact Factor: 0.795 , SCI]

2011

22. Parul Tyagi and Rashmi Tyagi, "Synthesis and physico-chemical properties of novel dialkyl diphosphate gemini surfactants based on octadecanol", *European Journal of Lipid Science and Technology*, 113 (7), 848-855(2011). [Impact Factor: 1.733 , SCI]
23. Parul Tyagi and Rashmi Tyagi, "Synthesis of bisphosphodiester surfactants derived from tetradecanol and different methylene chains as a spacer derived from α - ω -alkyl dibromides", *Tenside Surfactants Detergents*, 48 (4), 293-299(2011). [Impact Factor: 0.795 , SCI]
24. Sudip K De; M. Bhattacharjee "Synthesis of High Molecular Weight Polymer Nanoparticles by $[Cp_2ZrCl_2]$ Catalyzed Emulsion Polymerization" *J. Polym. Sci. Part A: Polym. Chem.* 2011, 49, 3920-3927.(ISSN: 1099-0518; Impact Factor 3.113)

2010

25. Parul Tyagi and Rashmi Tyagi, "Synthesis and properties of Di - n hexadecyl- α - ω - Alkyl bisphosphate surfactants," *Tenside Surfactants Detergents*, 47 (4), 1-6(2010). [Impact Factor: 0.795 , SCI]

National Journals

2015

1. D. Geetha and Rashmi Tyagi, "Ability of Sugar Based Glucoside Surfactants for Removal of Petroleum Contaminants", Journal of Surface Science and Technology.(accepted)

OTHER Journals

International

2015

1. D. Geetha and Rashmi Tyagi, "Synthesis and Mixed Micellization Studies of glucoside surfactants with Cationic Amphiphiles", Journal of Biochemistry International.(accepted).
2. N. Kumar& R. Tyagi, "Synthesis and Surface Studies of Anionic Gemini Surfactant in the Different Counter-ions", International Journal of Industrial Chemistry. DOI 10.1007/s40090-015-0032-1.
3. Vinayika Singh and Rashmi Tyagi, "Investigation of mixed surfactant systems of lauryl alcohol based bisulfosuccinate anionic gemini surfactant with conventional surfactants: A fluorometric study", Journal of Taibah University for Science, DOI: 10.1016/j.jtusci.2015.01.010.
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3. Sunil Kumar Srivastava and AL. Ramanatha” Groundwater in Vicinity of landfill” 2012 (LAMBERT ACADEMIC PUBLISHING), GERMANY, Jan. 2012. ISBN: 9783847328858

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2. S.Singh, H.Mahalingam and P.K.Singh “ Effective and Robust Impregnated and Strewn Polystyrene-Supported Floating Titanium Dioxide Photocatalysts: Preparation, Characterization and Comparison”, at Proceedings of the International Conference on Energy, Environment, Materials, and Safety, Cochin, Kerala, December 11-14, 2014.
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4. Sudip Kumar De - Latest Developments in Catalytic Aqueous Polymerization Involving Early Transition Metals - International Conference on Global Opportunities for Latest Developments in Chemistry and Technology- February 06-08, 2014, p40, North Maharashtra University
5. Kanchan Sharma, Sudip Kumar De - Development of Titanium Based Nonmetallocene Catalyst for Aqueous Polymerization - International Conference on Global Opportunities for Latest Developments in Chemistry and Technology- February 06-08, 2014, p204-205, North Maharashtra University (Awarded best poster paper)

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Summary Report

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International Journals	32
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Other Publications

Category	Numbers
Monographs	-
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Edited Books	-
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Journals Indexed in SCOPUS/SCI/Others

Category	SCOPUS	SCI	Others
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National	1	1	2

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SJR	Range: 0-3.1 Average: 1.1
Impact Factor	Range: 0-5.3 Average: 1.23
h-index	Range: 0-5 Average: 2